Kinetics of butane dehydrogenation ...

the maximum H/D ratio is 4. Selectivity decreases with decreasing H/D (Fig 2). Change in yield with H/D is explained by the different mixing and passing of the gas at different conditions. Two contrary factors affect the reaction rate: decreasing efficiency of gas mixing increases yields, while increasing heterogeneity of the bed decreases yield. Thus a maximum is observed as in other similar reactions (Ref 8: I.I. Ioffe, A.F. Grigorov, Khim. prom., 3, 57 (1959)). The effect of D was investigated in reactors with D = 25, 35, and 45 mm at 550°C, H/D = 2, and d_{mean} = 27μ. It was observed that the linear flow rate increases with increasing D, since the passing of the gas increases. Selectivity increases with decreasing D. Experiments with H/D = 4, D = 25 mm at 550°C and varying d (227, 82, 69, and 83μ) demonstrated that with decreasing d the yield also decreases. Yields and selectivity at optimum conditions (D = 25 mm, H/D = 4, d = 277μ) for suspended catalyst beds were compared with those obtained at similar conditions but with stationary catalyst beds (experiments carried out in cooperation with N.F. Vinnik and M.V. Sots-kova). The results (Fig 6,7) demonstrate that the yield and selectivity is higher in stationary catalyst beds. Experiments concerning carbon de-

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Kinetics of butane dehydrogenation ...

posit rate in dehydrogenation demonstrated that the amount of deposited carbon is 1.8 times greater in suspended than in stationary catalyst bed processes. There are 7 figures, 1 table and 11 references: 8 Soviet-bloc, and 3 non-Soviet-bloc. The English-language publications read as follows: J.F. Mathis, C.C. Watson, A.J.Ch.E.J., 2,4, 518 (1956), M. Goldman et al, J. Appl. Chem., 7, 5, 274 (1957), I.M. Dotson, A.J.Ch.E.J., 5, 2, 169 (1959).

ASSOCIATION: Nauchno-issledovatel'skiy institut monomerov dlya SK (Scientific Research Institute for Monomers for Synthetic Rubber)

SUBMITTED: April 4, 1960

Card 4/8

TYURYAYEV, I.Ya.; TSAYLINGOL'D, A.L.; BUYLOV, A.B.

Gas stirring efficiency in a reactor with a fluidized bed consisting of a fine-grained catalyst. Zhur.prikl.khim. 34 no.3: 558-564 Mr '61. (MIRA 14:5)

1. Yaroslavskiy nauchno-issledovatel'skiy institut monomerov dlya sinteticheskogo kauchuka.
(Fluidization)

TYURYAYEV, I.Ya.

Characteristics of the process involving the dehydrogenation of n-butane to n-butylene in the first few minutes of the action of the catalyst following the latter's regeneration. Zhur.prikl.khim. 34 no.3:703-705 Mr '61. (MIRA 14:5)
(Butane) (Butene) (Dehydrogenation)

S/076/61/035/004/005/016
B106/B201

AUTHORS: Kolobikhin, V.A., and Tyuryayev, I.Ya.

TITLE: Rate of conversion reactions of butadiene on a catalyst for the dehydrogenation of n-butylene

PERIODICAL: Zhurnal fizicheskoy khimii, v. 35, no. 4, 1961, 776 - 781

TEXT: The side reactions taking place in the catalytic dehydrogenation of n-butylene in the presence of water vapor at 580-630° C in addition to butadiene lead to the formation of CH_4, C_2H_4, C_2H_6, C_3H_6, C_3H_6, higher hydrocarbons, CO, and CO_2; "coal" deposits on the catalyst. The side reactions may be assigned to two groups: decomposition reactions and polymerization reactions of C_4H_8 and C_4H_6, on the one hand, and reactions of water vapor giving rise to CO_2 and CO. In this connection, the authors studied the rates of conversion reactions of butadiene in the presence of water vapor on the technical catalyst used in the dehydrogenation of butylene. The investigation was made in a quartz tube 20 mm in diameter

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Rate of conversion reactions ...

attached to an electric furnace. 10 ml of the catalyst (grain size 2-2.5 mm) were introduced into the tube within the heating range of the furnace. The temperature of the catalyst layer was measured with a chromel-alumel thermocouple applied in the middle of the layer. Temperature fluctuations during the experiments did not exceed ± 2-3° C. In most of the experiments, the mixture used as initial product was 84.7% C_4H_6, 14.7% n-C_4H_8, and 0.6% of lighter hydrocarbons (percents by volume). The dilution of butadiene vapors by water vapor was regulated by the temperature of the water vaporizer. The reaction products were analyzed chromatographically, CO and CO_2 were determined by well known methods. Table 1 presents the results obtained under different conditions. CO, CO_2, H_2, CH_4, C_2H_4, and "coal" resulted from the butadiene conversion on the catalyst in the presence of water vapor. The composition of the C_3 fraction could not be determined due to the low concentration, and was taken to be propylene. Very small amounts of higher hydrocarbons were also formed. If CH_4, C_2H_4, C_3H_6, and "coal" are considered to result from butadiene on the

Card 2/8

Rate of conversion reactions...

catalyst in the presence of water vapor, while CO_2, CO, and H_2 are formed by reaction of "coal" with the water vapor, the experimental results may be reproduced by the following equations: $C_4H_6 \longrightarrow 0.098\ CH_4 + 0.024\ C_2H_4 + 0.017\ C_3H_6 + 0.68\ C_4H_8 + 1.08\ C$; $H_2O + 0.5068\ C \longrightarrow 0.4931\ CO_2 + 0.0137\ CO + H_2$. Thus, the principal reactions in the butadiene conversion are the hydrogenation to butylene and the decomposition to "coal". The rate of the above equation for the butadiene conversion obeys the kinetic equation $r = kp_{C_4H_6}/(1+k_{C_4H_6}p_{C_4H_6}+k_{H_2}p_{H_2})^2$ (1).

Constants k and $k_{C_4H_6}$ were determined from this equation by graphical representation in the coordinates $\sqrt{p_{C_4H_6}/r_o} - p_{C_4H_6}$ (initial rate $r_o = kp_{C_4H_6}/(1+k_{C_4H_6}p_{C_4H_6})^2$ at $p_{H_2} = 0$). The following equations were derived: $\log k = (-4050/4.575\ T) + 0.976$; $\log k_{C_4H_6} = (-20600/4.575\ T) - 4.323$. After substituting the two constants in Eq. (1), the following

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Rate of conversion reactions...

temperature dependence was found for k_{H_2} :

$\log k_{H_2} = (44900/4.575\ T) - 9.77$. Eq. (1) with the constants that were determined holds for an experiment duration of one hour. The extent x of the butadiene conversion on the catalyst decreases with an increase of experiment duration τ according to equation $x = x_o \exp(-0.03661\ \tau^{0.59})$ (x_o = extent of conversion for $\tau = 0$). The values of x_o at 560°C were 0.76, at 580°C 0.82, and at 600°C 0.91. The main cause of the decrease of catalyst activity with time is the "coal" deposition. The rate of reaction of water vapor with coal according to the above second equation is directly proportional to the amount of "coal" formed and the partial pressure of the water vapor. The rate constant of this reaction is not strongly temperature dependent, and, under the experimental conditions, the reaction takes place manifestly in the diffusion region. The extent of reaction of deposited "coal" with water vapor is an important characteristic for the catalyst, as from it depends the admissible duration of the dehydrogenation cycle, and it characterizes the rate by which the

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S/076/61/035/004/005/018
B106/B201

Rate of conversion reactions ...

catalyst is able to regenerate itself. Table 2 presents data concerning the extent of the reaction of deposited "coal" with water vapor. There are 5 figures, 2 tables, and 11 references: 8 Soviet-bloc and 3 non-Soviet-bloc. The three references to English language publications read as follows: L.H. Beckberger, K.M. Watson, Chem. Engng. Progr., 44, 3, 229, 1948; J. C. Reidel, Oil a. Gas J., 55, 48, 87, 1957; R. W. Blue, V.C.F. Holm, R. B. Regier, E. Fast, L.F. Heckelsberg, Industr. Engng Chem., 44, 2710, 1952.

SUBMITTED: July 13, 1959

Table 1

① Условия опыта		④ Объемная скорость в., л/час	⑤ Состав контактного газа, объемн. %										⑦ Конверсия за проход, %
② Температура, °С	③ Разбавление, моль/моль		CO_2	CO	H_2	CH_4	C_2H_4	C_3H_6	⑥ Фракция C_5	C_4H_{10}	C_4H_8	C_4H_6	

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S/076/61/035/004/005/018
B106/B201

Rate of conversion reactions ....

560	1 : 10	400	10,8	0,2	17,5	1,3	0,5	0,0	0,0	0,0	31,1	38,8	45,9
		800	6,2	0,2	11,2	0,7	0,4	0,0	0,2	0,0	25,0	56,3	25,6
		1500	5,4	0,3	8,1	0,4	0,1	0,0	0,2	0,0	20,3	65,5	16,7
		3000	2,3	0,2	Σ6,9		0,1	0,0	0,1	0,0	17,9	72,7	10,0
	1 : 20	400	9,9	0,2	22,4	1,2	0,4	0,0	0,2	0,0	25,5	40,4	28,0
		800	6,9	0,2	11,1	0,7	0,1	0,0	0,6	0,0	21,7	58,9	20,7
		1500	4,2	0,2	Σ9,9		0,3	0,0	0,5	0,0	17,9	67,2	12,0
		3000	4,6	0,2	5,3	0,2	0,0	0,0	0,6	0,0	15,9	73,4	9,8
	1 : 30	400	10,2	0,0	19,7	1,3	0,5	0,0	0,5	0,0	24,0	43,8	30,8
		800	7,0	0,2	13,8	0,7	0,1	0,0	0,0	0,0	19,7	58,7	15,6
		1500	5,3	0,4	10,9	0,9	0,6	0,0	0,5	0,0	16,7	65,1	10,9
		3000	2,7	0,2	6,9	0,2	0,0	0,0	0,3	0,0	15,7	74,2	7,1
580	1 : 10	400	13,4	0,2	24,5	2,1	0,8	0,0	0,7	0,0	28,4	30,1	51,3
		800	9,6	0,4	15,7	1,3	0,2	0,0	0,8	0,0	23,9	48,5	29,6
		1500	6,2	0,2	Σ14,2		0,1	0,0	0,0	0,0	19,6	59,9	18,1
		3000	4,6	0,2	8,7	0,2	0,1	0,0	0,2	0,0	17,3	68,9	12,2
	1 : 20	400	16,3	0,2	32,9	3,3	0,7	0,0	1,0	0,0	20,8	25,0	46,9
		800	12,0	0,2	25,5	1,9	0,8	0,0	0,4	0,0	18,4	40,0	29,8
		1500	8,3	0,2	20,2	0,9	0,4	0,0	0,6	0,0	15,6	54,0	14,8
		3000	3,8	0,2	Σ8,25			0,0	1,1	0,0	17,9	69,0	21,1
	1 : 30	400	15,8	0,6	37,2	3,8	0,8	0,0	0,7	0,0	16,9	24,8	42,0
		800	12,4	0,2	26,7	2,0	0,5	0,0	0,8	0,0	16,8	40,8	26,2
		1500	6,7	0,4	21,7	1,1	0,6	0,0	0,6	0,0	15,0	54,3	12,0
		3000	9,8	0,6	Σ19,9		0,0	0,0	0,0	0,0	12,4	57,9	11,1

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Rate of conversion reactions ...

600	1 : 10	400	16,6	0,4	38,1	4,5	1,0	0,0	1,4	0,0	19,5	18,9	57,0
		800	15,1	0,6	31,8	2,7	0,7	0,0	1,1	0,0	17,0	31,6	42,5
		1500	8,2	0,8	21,5	1,2	0,4	0,0	0,6	0,0	14,5	53,6	18,5
		3000	3,3	0,6	13,6	0,7	0,4	0,0	0,0	0,0	15,0	67,0	15,4
	1 : 20	400	19,6	0,4	Σ50,5		0,7	0,0	0,7	0,0	13,4	[illegible]	52,0
		800	15,7	0,2	Σ39,2		0,7	0,0	1,0	0,0	14,6	28,8	34,8
		1500	12,4	0,2	21,9	1,2	0,5	0,0	0,7	0,0	14,8	48,5	20,0
		3000	5.6	0,4	Σ16,8		0,5	0,0	0,6	0,0	13,6	62,9	13,9
	1:300	400	18,1	0,6	44,4	3,7	0,7	0,0	0,9	0,0	13,5	18,7	45,3
		800	13,3	0,4	40,6	2,3	0,5	0,0	1,0	0,0	10,9	31,4	28,4
		1500	12,2	0,4	Σ30,2		0,2	0,0	0,4	0,0	11,2	45,8	17,1
		3000	11,2	0,2	Σ22,8		0,2	0,0	0,0	0,0	11,1	54,7	10,3

Legend to Table 1: Composition of the gas obtained in the conversion of butadiene on a catalyst for the dehydrogenation of n-butylene; (1) experimental conditions; (2) temperature, °C; (3) dilution, mol/mol; (4) volume rate, l/l/hour; (5) composition of contact gas, percents by volume; (6) C_3 fraction; (7) conversion per passage, %.

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Rate of conversion reactions ...

Table 2

Разбавление водяным паром по (1) объему	(2) Температура, °C		
	560	580	600
1 : 10	0,69	0,76	0,80
1 : 20	0,83	0,85	0,90
1 : 30	0,86	0,91	0,93

Legend to Table 2: Conversion of "coal" depositing on catalyst in butadiene conversion (values for one-hour experiments); (1) dilution with water vapor per volume; (2) temperature, °C.

Card 8/8

SLIN'KO, M.G.; TYURYAYEV, I.Ya.; KUZNETSOV, Yu.I.

Optimum operating conditions for hydrocarbon dehydrogenation columns. Khim.prom. no.4:253-259 Ap '62. (MIRA 15:5)
(Hydrocarbons) (Dehydrogenation) (Catalysis)

S/204/62/002/004/001/019
E071/E433

AUTHORS: Tyuryayev, I.Ya., Vinnik, N.F.

TITLE: Kinetic relationships in the single stage dehydrogenation of n-butane into divinyl in vacuo

PERIODICAL: Neftekhimiya, v. 2 , no.4, 1962, 436-441

TEXT: The single stage dehydrogenation of n-butane into divinyl in vacuo was investigated using a laboratory isothermic reactor with a stationary catalyst. From the analytical results obtained the following factors were calculated: yield of divinyl per pass, degree of conversion, selectivity and degree of conversion, selectivity and degree of single stage. The influence on these factors of temperature, volume velocity, pressure, composition of starting butane-butylene mixture, duration of the dehydrogenation and pretreatment of the catalyst with hydrogen was studied. The yield of divinyl per pass increases with increase of temperature, decrease of pressure, increase of butylene in the starting mixture, decrease of duration of the dehydrogenation (not less than 7 minutes) and at the expense of pretreatment of the catalyst with hydrogen. The degree of single stage increases with decrease

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of butylene contents in the starting mixture, decrease of temperature and decrease of volume velocity, with increase of pressure and at the expense of pretreatment of the catalyst with hydrogen. The amount of deposited "carbon" increases with temperature, duration of dehydrogenation and increase of butylene content in the starting mixture. Pretreatment of the catalyst with hydrogen decreases sharply the deposition velocity of the carbon. The selectivity increases by increase of the volume velocity, decrease of temperature or pressure and, especially by pretreatment of the catalyst with hydrogen. On the basis of the data obtained, the optimum conditions for the single stage dehydrogenation of butane on the same catalyst in an adiabatic reactor of periodic action were calculated. There are 4 figures and 2 tables.

ASSOCIATION: Nauchno-issledovatel'skiy institut monomerov dlya SK Yaroslavl' (Scientific Research Institute of Monomers for SK Yaroslavl')

TYURYAYEV, I.Ya.; BUYLOV, A.B.

Investigation and design of sieve gratings for sectioning reactors with a fluid-bed catalyst. Zhur.prikl.khim. 35 no.10: 2224-2231 O '62. (MIRA 15:12)

1. Nauchno-issledovatel'skiy institut monomerov dlya sinteticheskogo kauchuka.
(Chemical reactors) (Fluidization)

S/020/62/144/005/008/017
B106/B138

AUTHORS: Kolobikhin, V. A., Tyuryayev, I. Ya., Sobolev, V. M., and Yemel'yanova, Ye. N.

TITLE: Preparation of butadiene by oxidative dehydrogenation of n-butylenes

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 144, no. 5, 1962, 1053-1055

TEXT: The authors studied the oxidation of an industrial butylene fraction (composition in % by volume: C_3H_6: 0.3; C_4H_{10}: 3.0; 1-C_4H_8: 22.1; 2-C_4H_8: 71.6; C_4H_6: 2.4; C_5 and higher: 0.4) with air or oxygen on mixed catalysts consisting of metal oxides of groups V and VI of the periodic system on various carriers. The oxidation was conducted in a continuous flow system under atmospheric pressure. The molar ratio air: C_4H_8 was 2.06-2.42. Butadiene is the main oxidation product forming 38-45 mole% between 460 and 550°C, with initial butylene (31-45.5%), carbon dioxide (9.2-14.5%), and small amounts of low hydrocarbons (2.4-7.8%) as well.

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S/020/62/144/005/008/017
B106/B138

Preparation of butadiene by ...

Practically no hydrogen and only very small amounts of carbonyl compounds form. 97-99% oxygen is used in the oxidation. The best conditions for oxidative dehydrogenation of n-butylenes into butadiene are: temperature: 530°C, volume velocity of butylene: 600 hrs^{-1}; molar ratio: $C_4H_8 : O_2 = 2 : 1$; dilution of butylene with water vapor: $C_4H_8 : H_2O = 1 : 3 - 1 : 4$ (molar ratio) (Fig. 1). At 530°C, an increase in volume velocity from 600 to 860 hrs^{-1} reduces the butadiene yield from 50 to 45% and increases the reaction selectivity from 85 to 93%. Higher oxygen concentration will raise the degree of butylene conversion, and hence the yield of deep oxidation products (CO, CO_2), and reducing selectivity. A change of from 1 : 4 to 1 : 12 in the molar dilution ratio butylenes:water vapor has practically no effect on the conversion or selectivity. Increasing the ratio $C_4H_8 : H_2O$ to 1 : 1 accelerates formation of the product of deep oxidation, and reduces the butadiene yield. In contrast to the dehydrogenation of $C_4H_8 \longrightarrow C_4H_6 + H_2$, the main reaction $C_4H_6 + 1/2\ O_2 \longrightarrow C_4H_6 + H_2O$ is exothermic. Owing to the hydrogen bond, the butadiene yield is not limited by the reaction equilibrium. This opens up new possibilities for producing butadiene and isoprene. There

Card 2/3

Preparation of butadiene by ...

are 3 figures and 1 table. The English-language reference is: R. U. Brettow, Shen-Wu Wan, B. F. Dodge, Ind. and Eng. Chem., 44, 594 (1952).

ASSOCIATION: Nauchno-issledovatel'skiy institut monomerov dlya sinteticheskogo kauchuka (Scientific Research Institute of Monomers for Synthetic Rubber)

PRESENTED: March 13, 1962, by B. A. Kazanskiy, Academician

SUBMITTED: March 13, 1962

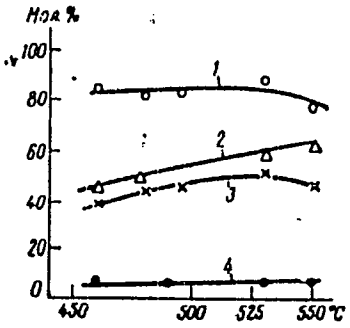

Fig. 1: Temperature dependence of the yields of reaction products. Legend: (1) selectivity; (2) C_4H_8 conversion; (3) yield of C_4H_6 per passage; (4) CO_2 yield.

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L 36185-65 EPF(c)/EPR/EWP(j)/EWT(m) Pc-4/Pr-4/Ps-4 WW/WW

ACCESSION NR: AP5010562 UR/0204/64/004/005/0707/0712

AUTHOR: Grigorovich, B. A.; Tyuryayev, I. Ya.; Lutsenko, B. V.; Rodnaryuk, T. S.

TITLE: Synthesis of isoprene from propylene. 4. Decomposition of 2-methylpentene-2 in the presence of HBr

SOURCE: Neftekhimiya, v. 4, no. 5, 1964, 707-712

TOPIC TAGS: catalysis, hydrogen, bromide, propylene, chemical stability, hydrocarbon

Abstract: The influence of temperature, time of contact and [illegible] on the yield [illegible] products of 2-methylpentene-2 in the presence of HBr was studied [illegible] pressure and under vacuum. [illegible] achieved at 615°, time of contact [illegible] obtained at 615°, time of contact [illegible] mole of C_6H_{12} yield of isoprene 12 mol %, selectivity 49 mol %. [illegible] of the decomposition of 2-methylpentene-2 qualitatively explains the composition of the products obtained, was proposed on the basis of the theory of the radical chain decomposition of olefins, and an explanation was given for

Card 1/2

L 36485-65

ACCESSION NR: AP5010562 UR/0204/64/004/005/0707/0712 2

the role of HBr in this process. The authors thank V. V. Voyevodskiy for discussing the reaction mechanism. Orig. art. has 10 formulas, 2 graphs, and 3 tables.

ASSOCIATION: Naucnno-issledovatel'skiy institut monomerov dlya sinteticheskogo kau-

Card 2/2

L 39391-65 EPF(c)/EWP(j)/EWT(m)/T Pc-4/Pr-4 RM

ACCESSION NR: AP4005737 S/0204/63/003/006/0850/0852

AUTHORS: Kolobikhin, V.A.; Sobolev, V.M.; Tyuryayev, I.Ya.; Myasoyedov, M.S.

TITLE: 1,3-butadiene synthesis by n-butane dehydrogenation

SOURCE: Neftekhimiya, v. 3, no. 6, 1963, 850-852

TOPIC TAGS: butadiene derivative, butane, butane dehydrogenation, butadiene synthesis, butadiene, olefins synthesis, dehydrogenation, alpha butylene, beta butylene, [illegible]

ABSTRACT: The authors studied the use of elemental iodine to increase the butadiene yield with n-butane dehydrogenation [illegible] to recover I_2 according to the reaction $C_4H_{10} + 2I_2 \rightarrow C_4H_6 + 4HI$, $MeO + 2HI \rightarrow H_2O + MeI_2$; $MeI_2 + 1/2O \rightarrow MeO + I_2$, using as the HI acceptor metals with changing valence in a flow system at 550C, and varying the molar ratio $I_2 : C_4H_{10}$ from 0 to 1.43. After the test was run for 30 minutes, the acceptor was easily regenerated by blowing air at the reaction temperature, and the iodine was isolated. The ratio $I_2 : C_4H_{10}$ determined the conversion rate, which increased from 36 to 70% with a ratio increase from 0.25 to 0.75 and reached

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L 39191-65

ACCESSION NR: AP4005737

92-94% and a C_4H_6 yield of 52.8% at the highest ratio (selectivity 75% as regards $C_4H_6 + C_4H_8$). Without iodine, conversion was 16% and selectivity [illegible]. [illegible] quantities of O_2 for interior iodine regeneration. At a molar ratio $I_2:C_4H_{10} = 0.56$ and additional air, the conversion increased from 57 to 74% with slightly increased selectivity. Decreasing the temperature decreased conversion but increased selectivity. Continuous reaction and regenerating may be effected in one piece of equipment. Orig. art. has: 4 equations, 2 tables, 1 figure.

ASSOCIATION: Nauchno-issledovatel'skiy institut monomerov dlya SK (Scientific Research [illegible])

SUB CODE: [illegible] NR REF SOV: 001 OTHER: 004

L 45683-66 EWT(m)/EWP(j)/T WE/RM

ACC NR: AP6020391 SOURCE CODE: UR/0204/66/006/001/0071/0074

AUTHOR: Tyuryayev, I. Ya.; Grinenko, S. B.; Kadilova, I. L.; Kozorezov, Yu. I.; Golubova, E. Ye.; Zhupanenko, V. V.

ORG: Institute of Chemistry of High Molecular Compounds, AN UkrSSR (Institut khimii vysokomolekulyarnykh soyedineniy AN UkrSSR)

TITLE: Effect of oxides of various metals on the oxidative dehydrogenation of isopentane into isoprene with the participation of iodine

SOURCE: Neftekhimiya, v. 6, no. 1, 1966, 71-74

TOPIC TAGS: transition metal oxide, dehydrogenation, isopentane, isoprene, iodine

ABSTRACT: Comparative data were obtained on the oxidative dehydrogenation of isopentane into isoprene with the participation of iodine and various metal oxides. The reaction products were analyzed by gas-liquid chromatography. From the standpoint of the isoprene yield from the dehydrogenation in the presence of iodine and air, the oxides are arranged in the following sequence:

$$CaO > Mn_3O_4 > ZnO > NiO > CoO > Fe_2O_3,$$

and when air is replaced by nitrogen,

Card 1/2 UDC: 547.315.2:547.215-125:542.941.8:[546.15+546.3-31

ACC NR: AP6020391

$$CaO > Mn_3O_4 > NiO > Fe_2O_3 > ZnO > CoO.$$

The best characteristics are obtained when calcium oxide is used as the absorbing agent for hydrogen iodide. When 0.5 mole of iodine per mole of isopentane and one mole of oxygen per mole of iso-C_5H_{12} are supplied at 530° and the contact time is 1.3 sec, the isoprene yield is about 62 mole % in one operation for a selectivity of the process of 82 mole %. Orig. art. has: 1 figure and 2 tables.

SUB CODE: 07/ SUBM DATE: 01Feb65/ ORIG REF: 003/ OTH REF: 001

Card 2/2 YMT

TYURYAYEV, I.Ya.

Principles of the production of butadiene by dehydrogenation of butane and butylene. Usp. khim. 35 no.1:121-149 Ja '66. (MIRA 19:1)

1. Institut khimii vysokomolekulyarnykh soyedineniy AN UkrSSR i Nauchno-issledovatel'skiy institut monomerov dlya sinteticheskogo kauchuka.

TSAYLINGOL'D, A.L.; TYUREYAYEV, I.Ya.; PILIPENKO, F.S.; BASNEF, M.Ye.; DOSHCHATOV, V.V.; STEPANOV, G.A.

Investigating the kinetics of the oxidative dehydrogenation of n-butylenes to bivinyl. Khim. prom. 42 no.9:647-651 S '65. (MIRA 18:9)

CHAPLITS, D.N.; SAMOKHVALOVA, K.D.; TYUKYAYEV, I.Yu.

Calculating the equilibrium of the reaction of liquid phase hydration of isobutylene. Khim. prom. 42 no.9:653-655 S '65. (MIRA 18:9)

GRIGOROVICH, B.A.; TYURYAYEV, I.Ya.; LUTSENKO, S.V.; BODNARYUK, T.S.

Synthesis of isoprene from propylene. Report No.4: Decomposition of 2-methylpentene-2 in the presence of HBr. Neftekhimiia 4 no.5:707-712 S-O '64. (MIRA 18:1)

1. Nauchno-issledovatel'skiy institut monomerov dlya sinteticheskogo kauchuka.

TSURYAYEV, I. Ya. TSAY[illegible], V. L. ; MAKHTAKOV, V.V.; KOLOBIKHIN, V.A.

Obtaining butadiene-1,3 by the oxidation dehydrogenation of butene in the fluidized bed. Neftekhimiia 4 no.2:190-193 Mr-Ap'64 (MIRA 17:8)

1. Nauchno-issledovatel'skiy institut monomerov dlya sinteticheskogo kauchuka, Yaroslavl'.

KOLOBIKHIN, V.A.; SOBOLEV, V.M.; TYURYAYEV, I.Ya.; MYASOYEDOV, M.I.

Production of bivinyl by dehydrogenation of n-butane. Neftekhimiia 3 no.6:850-852 N-D '63. (MIRA 17:3)

1. Nauchno-issledovatel'skiy institut monomerov dlya sinteticheskogo kauchuka.

TSAYLINGOL'D, A.L.; TYURYAYEV, I.Ya.; BONDARENKO, A.V.; CHEREMUKHINA, T.A.

Catalytic hydrocracking of dixylmethane. Khim. i khim. tekh. 1:111-121 '62. (MIRA 17:2)

1. Nauchno-issledovatel'skiy institut monomerov dlya sinteticheskogo kauchuka i Yaroslavskiy tekhnologicheskiy institut.

TYURYAYEV, I.Ya.; FEL'DBLYUM, V.Sh.; GRIGOROVICH, B.A.; GAL'PERIN, I.M.

Synthesis of isoprene from propylene. Khim.prom. no.9:647-650 S '63. (MIRA 16:12)

TYURYAYEV, I.Ya.; GUSAKOVA, L.A.

Variations in the activity and composition of chromia-alumina catalysts during their regeneration. Kin. i kat. 4 no.4:601-604 Jl-Ag '63. (MIRA 16:11)

1. Nauchno-issledovatel'skiy institut monomerov dlya sinteticheskogo kauchuka, Yaroslavl'.

BUYLOV, A.B.; TYURYAYEV, I.Ya.

Effectiveness of sectionalizing particle-mixing apparatus with a fluidized bed. Zhur. prikl. khim. 36 no.5:1028-1032 My '63. (MIRA 16:8)

(Fluidization) (Mixing)

S/204/63/003/001/004/013
E075/E436

AUTHORS: Fel'dblyum, V.Sh., Kryukov, S.I., Farberov, M.I., Golovko, A.V., Tyuryayev, I.Ya., Pankov, A.G.

TITLE: The synthesis of isoprene from propylene
2. Isomerization of 2-methylpentene-1 in the liquid phase in the presence of solid acidic catalysts

PERIODICAL: Neftekhimiya, v.3, no.1, 1963, 20-27

TEXT: The object of the work was to isomerize 91.4% wt. pure 2-methylpentene-1 in the liquid phase using silica-alumina, cation exchange resin КУ-1 (KU-1), phosphoric acid-kieselguhr, alumina and silica gel as catalysts. All experiments were carried out at 100 and 150°C and at 75 to 125°C with KU-1 as catalyst. The isomerization is complicated by three secondary reactions, the main of which is the formation of dodecene (dimerization of isohexenes). A small amount of cracking gives amylenes (especially at the higher temperatures). There is also formation of small amounts of various isohexenes. Silica gel and alumina were the least active catalysts. With the remaining more active catalysts the velocity of the main and secondary reactions was much

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E075/E436

The synthesis of ...

higher, the increased temperatures favoring the formation of dodecene and decreasing the yield of 2-methylpentene-2. Isomerization of 2-methylpentene-1 (A) to 2-methylpentene-2 (B) with the formation of dodecenes (A_2, AB and B_2) proceeds as follows

$$A \overset{K}{\rightleftharpoons} B, \quad 2A \xrightarrow{K_1} A_2, \quad A + B \xrightarrow{K_2} AB, \quad 2B \xrightarrow{K_3} B_2.$$

The relative values of K and K_1, K_2, K_3 depend on the proton acidity of the catalysts. Thus their effectiveness may be obtained from all these values. The catalysts were rated in the order of increasing activity:

$$Al_2O_3 \approx SiO_2 < \text{silica-alumina} < H_3PO_4 - \text{kieselguhr} \approx \text{KU-1}.$$

The effectiveness of acidic sites increases in the order KU-1 < H_3PO_4 - kieselguhr < silica-alumina. Catalysts KU-1 and silica-alumina give about 80% conversion to 2-methylpentene-2 at 75 and 100°C respectively. There are 2 figures and 4 tables.

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The synthesis of ...

S/204/63/003/001/004/013
E075/E436

ASSOCIATION: Nauchno-issledovatel'skiy institut monomerov dlya sinteticheskogo kauchuka Yaroslavskiy tekhnologicheskiy institut (Scientific Research Institute of Monomers for Synthetic Rubber, Yaroslav Technological Institute)

SUBMITTED: June 9, 1962

Card 3/3

TYURYAYEV, I.Ya.; GUSAKOVA, L.A.

Rate of burning up of carbonaceous deposits in the regeneration of a butene dehydrogenation catalyst. Kin.i kat. 3 no.6:927-930 N-D '62. (MIRA 15:12)

1. Nauchno-issledovatel'skiy institut monomerov dlya sinteticheskogo kauchuka.

(Butane) (Dehydrogenation)
(Catalysts) (Combustion)

RYURYAYEVA, A.A., assistant

Rheumatic fever in children in Dushanbe. Trudy Tadzh. [illegible]. 50:72-76 '61.

Occurrence of rheumatic fever among children in the [illegible] and Kindergartens in Dushanbe. Trudy Tadzh. med. inst. [illegible] (MIRA 17:8)

1. Iz kafedry detskikh bolezney (zav. - prof. V.S. Vayl') Tadzhikskogo gosudarstvennogo meditsinskogo instituta imeni Abuali Ibn-Sino.

TYURYAYEVA, A.A.

Annotations and authors' abstracts. Pediatriia 41 no.11:90 N'62
(MIRA 17:4)

1. Iz Detskoy klinicheskoy bol'nitsy No.1, Dushanbe.

TYURYAYEVA, A.A.

Abdominal syndrome in rheumatic fever in children. Zdrav. Tadzh. 8 no.1:39-41 '61. (MIRA 14:3)

1. Iz kafedry detskikh bolezney (zav. - prof. V.S.Vayl') Stalinabadskogo meditsinskogo instituta imeni Abuali ibni Sino i Detskoy klinicheskoy bol'nitsy No.1.
(RHEUMATIC FEVER)

TYURYAYEVA, A.L.

Paroxysmal hemoglobinuria in a child. Zdrav. Tadzh. 7 no. 3:49-50 My-Je '60. (MIRA 14:4)

1. Iz kafedry detskikh bolezney (zav. - prof. V.S. Vayl') Stalinabadskogo meditsinskogo instituta imeni Abuali ibni Sino.
(HEMOGLOBINURIA)

1. DRESLER, K. H.; TYURYNA, O. S.

2. USSR (600)

4. Toxins and Antitoxins

7. Sensitivity of new-born mice to B. perfringens toxin, Mikrobil. zhur., 14, No. 1, 1952.

9. Monthly List of Russian Accessions, Library of Congress, April, 1953, Uncl.

MAKHONINA, G.I.; TIMOFEYEV-RESOVSKIY, N.V.; TITLYANOVA, A.A.; TYURYUKANOV, A.N.

Distribution of strontium-90 and cesium-137 among the components of a biogeocoenose. Dokl. AN SSSR 140 no.5:1209-1212 O '61. (MIRA 15:2)

1. Laboratoriya biofiziki Ural'skogo filiala AN SSSR. Predstavleno akademikom V.N.Sukachevym.

(STRONTIUM--ISOTOPES)
(CESIUM--ISOTOPES)
(PLANTS--CHEMICAL ANALYSIS)

TYURYUKANOV, A. N.

TYURYUKANOV, A. N. --"The Underwater Soil of the Lower Part of Moscow River." Moscow Order of Lenin and Labor Red Banner State U imeni M. V. Lomonosov, Faculty of Soil Biology, Moscow, 1956
(Dissertation for the degree of candiate in Biological Sciences.)

KNIZHNAY LETOPIS
No 41, October 1956

USSR/Soil Science - Genesis and Geography of Soils. J

Abs Jour : Ref Zhur Biol., No 22, 1958, 99975

Author : Tyuryukanov, A.N.
Inst : [redacted]
Title : Concerning the Peculiarities of the Chemical Composition of Soil-Subsoil Waters of the Bottom Lands and Its Determining Factors.

Orig Pub : Pochvovedeniye, 1957, No 9, 79-88

Abstract : Observations were conducted on the left-bank part of the Faust widening of the Moscow River bottom lands on the meadow, sod-meadow, meadow- marsh soils and partly on slightly-podzolized soil of the first terrace above the bottom lands. In soil-subsoil waters, during the vernal period, concentrations of the bivalent Fe, Ca and the sulphate ions sharply increase; in meadow-marsh soil, there is an additional increase in the bicarbonate ions and the ions of Mg. Total ion concentrations of Na and K also

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increase. In the soil-subsoil waters, only traces of phosphates are found; chlorine ions were found only in the spring in meadow and sod-meadow soils. Oxidation ofsulphides in the sod-meadow soil proceeds more intensively than in the meadow soil. Determination of the dissolved O_2 by Winkler's method permitted the separation of three kinds of subsoil waters: in the region of sand terraces above the bottom lands, the O_2 content in soil-subsoil waters reaches 6.8-8.25 mg/l, or respectively 65-83% of saturation; in soil-subsoil waters of the bottom lands near the terraces, the content of the dissolved O_2 is equal to 0.1-0.2 mg/l; the soil-subsoil waters of the near-the-river-bed and central parts of the bottom lands are characterized by a fairly stable content of the dissolved O_2 in the summer period, corresponding to 25-30% saturation. -- S.A. Remizov

TYURYUKANOV, A.N.

TYURYUKANOV, A.N.

Conference of representatives of higher institutions on microelements in soils of the U.S.S.R. Pochvovedenie no.11:105-107 N '57. (MIRA 10:12)

(Trace elements)

TYURYUKANOV, A.N.

Intercollegial conference o. trace elements in soils of the U.S.S.R. Vest. Mosk. un. Ser. biol., pochv., geol., geog. 12 no.4:251-254 '57. (Minerals in soil) (MIRA 11:5)

TYURYUKANOV, A. N.

20-2-38/50

AUTHOR: Tyuryukanov, A. N.,

TITLE: On the Origin of the Granular and Fine-Schistose Structure of Flood-Plain Soils (O proiskhozhdenii zernistoy i tonkosloistoy struktury poymennykh pochv)

PERIODICAL: Doklady AN SSSR, 1957, Vol. 116, Nr 2, pp. 297-300 (USSR)

ABSTRACT: The maintainace of the fertility of the flood-plain soils is connected to a great extent with their granular structure. Moreover the fine-schistose structure is widely distributed here. The soil formation conceals the two types of the schistose structure: the micro- and macro stratified character. According to Bronzov the fine-schistose structure is produced by the action of wind and waves according to their power. Vil'yams traces the granular structure back to the bursting of the upper layer rich in humus as a consequence of drying out. The author investigated the inundation area of the lower course of the Moskva river, especially at the time of high water. These areas form in this period strange passage-waters. The hydrodynamical conditions lead to the differentiation of the alluvions according to their thickness as well as according to their mechanical and chemical composition. There is rich sedimentation material. During this short-lived period a special soil formation process takes place. A high intensity of

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On the Origin of the Granular and Pien-Schistose Structure of Flood-Plain Soils.

the biological processes, a strange "life stimulation" is characteristic of it. The author calls this earliest stage of soil formation the "mud" stage. In the here existing system: mud-soil-near water-main water of the temporary inundation reservoir the phytoplankton develops rapidly. The latter produces and separates a great quantity of oxygen and of organic substance into water. In the newly deposited mud layers intensive microbiological decomposition processes of the organic substance occur in the ratios of the reducing medium. Here are formed: ammonia, methane, with other hydrocarbons of the methane series, sulphuretted hydrogen, carbonic acid and other compounds. The gases escape freely from the semi-liquid or still humid mud layers into the air or solve in water. Thus a diffusion current is produced of the substances between the mud, the soil-near water, and the main water which here maintains the high intensity of the microbiological processes. The author uses the theory of the microzonal structure by Perfil'yev. According to this certain groups of anaerobic microorganisms are locally distributed in thin layers: "microzones" in the mud. This guarantees them a simultaneous inflow of vital different compounds. During the drying out of the mud layer the present system is re-

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On the Origin of the Granular and Fine-Schistose Structure of Flood-Plain Soils. 20-2-38/50

placed by another system: mud-air. The mud dries and its "microzonal" structure is conserved. The dead organic structure serves as cement. The mud formation processes continued in the inner continue the separation of gas which, however, prevented from escaping by a surface crust. By this way the schostose structure is replaced by an alveolar one. The latter is the origin of the granular soil structure of the plains. The author denies the thermal bursting of themud layer in his afea. The further transformation of the soil is caused by soil animals, especially by earth worms. The surface is now already covered with grass.There are 2 tables and 4 Slavic references.

ASSOCIATION: Moscow State University imeni M. V. Lomonosov(Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova)

PRESENTED: April 1, 1957 by I. V. Tyurin, Academician

SUBMITTED: April 1, 1957

AVAILABLE: Library of Co_ngress

Card 3/3

KOVDA, V.A.; YAKUSHEVSKAYA, I.V.; TYURYUKANOV, A.N.

Trace elements in soils of the U.S.S.R. Izv. AN SSSR. Ser. biol. no.5:562-570 S-O '58. (MIRA 11:10)

1. Moskovskiy gosudarstvennyy universitet imeni M.V. Lomonosova, Biologo-pochvennyy fakul'tet.
(MINERALS IN SOIL)

TYURYUKANOV, A.N.

Origin and interrelationships of grainy and stratified bottom lands. Nauch.dokl.vys.shkoly;biol.nauki no.3:169-172 '58. (MIRA 11:12)

1. Predstavlena kafedroy pochvovedeniya Moskovskogo gosudarstvennogo universiteta imeni M.V.Lomonosova.
(Alluvial lands)

KOVDA, V.A.; YAKUSHEVSKAYA, I.V.; TYURYUKANOV, A.N.; PEREL'MAN, A.I., doktor geologo-mineralog.nauk, otv.red.; YERMAKOV, M.S., tekhn.red.

[Trace elements in the soils of the Soviet Union] Mikroelementy v pochvakh Sovetskogo Soiuza. Moskva, Izd-vo Mosk.univ., 1959. 63 p. (MIRA 13:3)
(Trace elements) (Soils)

TYURYUKANOV, A.N.

Bottom-land soils in the lower Moskva Valley. Vest.Mosk.un.Ser. biol., pochv., geol., geog. 14 no.1:101-108 '59. (MIRA 12:9)

1. Moskovskiy gosudarstvennyy universitet, Kafedra pochvovedeniya. (Moskva Valley--Soils)

3 (5), 30 (1)

AUTHORS: Titlyanova, A. A., Tyuryukanov, A. N., SOV/20-126-6-55/67
Makhonina, G. I.

TITLE: On the Desorptive Effect of Natural Extracts (O desorbiruyushchem deystvii prirodnykh ekstraktov)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 126, Nr 6, pp 1346 - 1349 (USSR)

ABSTRACT: First the effect of the presence of organic substances in natural waters is discussed. This effect is very different (Refs 1-5). Especially important is the formation of complexes with different metals. In recent years the interest in these natural complexons has considerably increased. They are able to transfer the metals immediately from the crystalline mineral lattices or from the soil-absorption-complexes (pochvennyy pogloshchayushchiy kompleks) into the soil solutions (Refs 6-9). Such complexons existing also in living organisms can be extracted by water after the death of the latter or they can regenerate in the case of the putrefaction of vegetable or animal remains. The authors detected the effect mentioned in the title in the case of zinc. The following elements were investigated: iron, zinc, cobalt, and yttrium (which are all consider-

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ably complex-forming), strontium (less complex-forming) and cesium (practically not complex-forming). Their radioactive isotopes were used in indicator masses without carriers. Mainly meadow soil (South-Urals), black soil (Kursk district), red soil (Georgia) and fuller's earth (horizon A_2, Moscow district) were selected for the experiments. In the first experimental series the desorption of Fe, Co, and Zn from different soils by aqueous extracts of yellow leaves of birch-tree (Betula), pine (Pinus), bird-cherry (Prunus padus) and asp (Populus tremula) and of green wormwood (Artemisia) [species could not be found] were investigated. Approximately 100 g were treated with 5 l sea water during 1 week. In the IInd series the desorption of Zn, Sr, Y, and Cs from meadow soil was investigated and concentrated extracts from asp-, bird-cherry- and birch-tree leaves (2 weeks extraction) were used. The desorption with water and 0.01 n EDTA-solution (one of the strongest complexons) was used for comparison. Figure 1 shows the results of the Ist series. The extracts desorb Fe, Co, and Zn less than EDTA-solution, but more than water. The extracts act especially strongly on Co and Zn, but also Fe is desorbed by 1.5 time more than by water. Asp

On the Desorptive Effect of Natural Extracts SOV/20-126-6-55/67

leaves and Artemisia vulgaris act more strongly than birch-tree, bird-cherry, and pine. The desorption proceeds differently in different soils. The decrease of the humus content increases the desorption-%. In the IInd experimental series Cs was very little desorbed by EDTA-solution as well as by extracts. It was assumed that the desorbing effect of the extracts can be explained by a complex formation. Experiments with zinc which were bound to confirm this assumption showed that the effect of the investigated extracts is not directly connected with their active reaction. Zn exists in different forms in the solution. The effect of the natural extracts on the processes of the element migration in waters and soils is in any case strong. There are 2 figures and 9 references, 5 of which are Soviet.

ASSOCIATION: Institut biologii Ural'skogo filiala Akademii nauk SSSR (Institute of Biology of the Urals Branch of the Academy of Sciences, USSR) Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova (Moscow State University imeni M. V. Lomonosov)

PRESENTED: March 21, 1959, by I. V. Tyurin, Academician
SUBMITTED: March 19, 1959

Card 3/3

KHOLLICHER, Val'ter [Hollitscher, Walter]; AKCHURIN, I.A. [translator]; ARKHANGEL'SKIY, N.S. [translator]; MOCHALIN, D.N. [translator]; OMEL'YANOVSKIY, M.E., akademik, red.; OPARIN, A.I., akademik, red.; MASKVICH, A.G., doktor fiziko-matem.nauk, red.; OVCHINNIKOV, N.F., kand.filosof.nauk, red.; TYURYUKANOV, A.N., kand.biolog.nauk, red.; GAL'PERIN, P.Ya., dotsent, red.; URYSON, M.I., kand.biolog.nauk, red.; MAKAROV, A.A., red.izd-va; ZOTOVA, N.V., tekhn.red.

[Nature in the scientific picture of the world] Priroda v nauchnoi kartine mira. Obshchaia red. i vstupitel'naia stat'ia M.E. Omel'ianovskogo. Moskva, Izd-vo inostr.lit-ry, 1960. 469 p. (MIRA 14:3)

1. AN USSR (for Omel'yanovskiy).
(Science--Philosophy)

TYURYUKANOV, A.N.

Singular features of floodplain structure and soil formation processes in the Moscow River Valley. Izv. AN SSSR. Ser. geog. no.6:69-73 N-D '60. (MIRA 13:10)

1. Moskovskiy Gosudarstvennyy universitet im. M.V.Lomonosova Biologo-pochvennyy fakul'tet.
(Moscow Valley--Soils)

MAKHONINA, G.I.; MOLCHANOVA, I.V.; SUBBOTINA, Ye.N.; TIMOFEYEV-RESOVSKIY N.V.; TITLYANOVA, A.A.; TYUKYUKANOV, A.N.

Experimental investigation of radioisotope distribution in natural biogeocoenoses. Dokl.AN SSSR 133 no.2:484-487 J1 '60. (MIRA 13:7)
(Radioactive substances) (Forest ecology)

TYURYUKANOV, A.N.; VASIL'YEVSKAYA, V.D.

Geochemical soil characteristics of Meshchovsk field lands. Vest. Mosk. un. Ser. 6: Biol., pochv. 19 no.4:64-70 Jl-Ag '64. (MIRA 17:12)

1. Kafedra pochvovedeniya Moskovskogo universiteta.

TYURYUKANOVA, E.B.; PAVLOTSKAYA, F.I.; TYURYUKANOV, A.N.; ZATSEPINA, L.N.; BABICHEVA, Ye.V.; RODIONOVA, L.M.

Migration and distribution of strontium-90 and cerium-144 in the soils of Moscow Province. Pochvovedenie no.10:66-73 O '64. (MIRA 17:11)

1. Institut biokhimii i analiticheskoy khimii imeni Vernadskogo.

TYURYUKANOV, A.N.

Landform-geochemical barriers and their role in the migration of chemical elements in the geographical envelope. Izv.Vses. geog.ob-va 96 no.4:306-312 Jl-Ag '64. (MIRA 17:10)

TYURYUKANOV, A.N.; SHAMAYEVA, G.M.

Cartogram of the iodine content of soils in Kaluga Province and methods of its drawing. Nauch. dokl. vys. shkoly; biol. nauki no. 2:196-198 '64. (MIRA 17:5)

1. Rekomendovana kafedroy pochvovedeniya Moskovskogo gosudarstvennogo universiteta im. M.V.Lomonosova.

TYURYUKANOV, A.N.; SHAMAYEVA, G.M.

Iodine distribution in soils as related to their type and microrelief. Nauch.dokl.vys.shkoly; biol.nauki no.2:171-174 '63. (MIRA 16:4)

1. Rekomendovana kafedroy pochvovedeniya Moskovskogo gosudarstvennogo universiteta im. M.V.Lomonosova.
(SMOLENSK PROVINCE--SOILS--IODINE CONTENT)

BYSTRITSKAYA, T. L.; TYURYUKANOV, A. N.

On the genetic transition class of soils and certain dark-colored types it contains. Dokl. AN SSSR 147 no.4:935-937 D '62. (MIRA 16:1)

1. Institut biologii Ural'skogo filiala AN SSSR i Institut obshchey i kommunal'noy gigiyeny im. A. N. Sysina AMN SSSR. Predstavleno akademikom V. N. Sukachevym.

(Soil formation)

VINBERG, G.G.; TYURYUKANOV, A.N.; STEBAYEV, I.V.; TITLYANOVA, A.A.

A conference on biogeocoenology. Zool. zhur. 41 no.4:633-640 Ap '62. (MIRA 15:4)
(Biological research)

MAKHONINA, G.I.; MOLCHANOVA, I.V.; Prinimali uchastiye: TITLYANOVA, A.A.; TYURYUKANOV, A.N.

Investigating the behavior of very small quantities of iron and zinc in soils. Nauch. dokl. vys. shkoly; biol. nauki no.4:218-225 '61. (MIRA 14:11)

1. Rekomendovana kafedroy pochvovedeniya Moskovskogo gosudarstvennogo universiteta im. M.V.Lomonosova.
(SOILS--IRON CONTENT) (SOILS--ZINC CONTENT)

IVANOV, A.S.; KUZ'MENKO, I.T.; TYURYUKANOV, A.N.

Iodine content of soils in Moscow Province; with regard to the problem of the endemy of goiter. Nauch. dokl. vys. shkoly; biol. nauki no. 1:213-217 '61. (MIRA 14:2)

1. Rekomendovana kafedroy pochvovedeniya Moskovskogo gosudarstvennogo universiteta im. M.V. Lomonosova i Zagorskim rayzdravotdelom Moskovskoy oblasti.
(MOSCOW PROVINCE--SOILS--IODINE CONTENT)
(GOITER)

TYURYUKANOVA, E.B.; PAVLOTSKAYA, F.I.; TYURYUKANOV, A.N.; ZATSEPINA, L.N.; BABICHEVA, Ye.V.; RODIONOVA, L.M.

Migration and distribution of strontium-90 and cerium-144 in the soils of Moscow Province. Pochvovedenie no.10:66-73 O '64. (MIRA 17:11)

1. Institut biokhimii i analiticheskoy khimii imeni Vernadskogo.

L 05801-67 EWT(m) GD

ACC NR: AT6031240 SOURCE CODE: UR/0000/65/000/000/0001/0021

AUTHOR: Pavlotskaya, F. I.; Zatsepina, L. N.; Tyuryukanova, E. B.; Baranov, V. I. 28 B+1

ORG: none

TITLE: Mobility and forms of occurrence of strontium-90, stable strontium, and calcium in turf-podzol 19

SOURCE: USSR. Gosudarstvennyy komitet po ispol'zovaniyu atomnoy energii. Doklady, 1965 O podvizhnosti i formakh nakhozhdeniya strontsiya-90, stabil'nogo strontsiya i kal'tsiya v dernovo-podzolistoy i chernozemnoy pochvakh, 1-21

TOPIC TAGS: strontium, calcium, radioactive fallout, stable strontium, strontium mobility, calcium strontium occurrence, stable strontium mobility, calcium mobility, calcium occurrence

ABSTRACT: A study was conducted to determine the mobility of fallout strontium-90, stable strontium, and calcium, and the forms in which they occur in different genetic horizons in turfy podzol soils of the forest zone and in chernozem soils of the steppe zone. (Mobility is defined as the ratio between the total amount of the element in water-soluble and exchange states as compared with the amount in an

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L 05801-67

ACC NR: AT6031240 O

acid-soluble solution, expressed in percentage). It was found that in the furrow slice in turfy podzol soils the mobility of strontium-90, stable strontium, and calcium is practically the same and constitutes 90%; in typical chernozem the mobility of radioactive and stable strontium is to an order of 65%, and that of calcium 85%. In virgin soils the same mobility ratios prevail, but at lower values. The observed differences in mobility between turfy podzol loamy soils and chernozem, and between cultivated and virgin lands are mainly a function of the difference in the possibility of their occurrence in a water-soluble state. Furthermore, strontium-90 occurs in a greater degree in the water-soluble state than stable strontium or calcium. Besides the physicochemical properties of soils, a significant effect on the form of occurrence, mobility, and the character of distribution of strontium-90, stable strontium, and calcium in the soil is the source of the element, soil texture (in the case of virgin soils), and the agricultural practices used (in the case of cultivated soils). Thus, the form of occurrence and mobility of the elements discussed in a given soil is a function of the soil's physicochemical composition, its genetic structure, vegetation cover, and amount and composition of the organic component. Orig. art. has: 5 figures and 6 tables. [Based on authors' abstract]

SUB CODE: 08, 20/ SUBM DATE: none/ ORIG REF: 013/ OTH REF: 015/

Card 2/2 blh

L 4[illegible]-65 EWT(m)/EWP(b)/EWP(t) Peb DIAAP/IIP(c) JD

ACCESSION NR: AP5014016 UR/0089/65/018/003/0246/0250 26

AUTHOR: Baranov, V. I.; Pavlotskaya, F. I.; Fedoseyev, G. A.; Tyuryukanova, E. B.; Rodionova, L. M.; Babicheva Ye. [illegible]; Katsepina, L. N.; Vostokova, T. A.

[illegible] from 1950-1960

SOURCE: Atomnaya energiya, v. 18, no. 3, 1965, 246-250

TOPIC TAGS: strontium, isotope, soil, soil property

[illegible] Data are given on the distribution of Sr^{90} in the Soviet Union during [illegible]

upper layer of the soil (5 and 15 cm in depth) was [illegible] The amount of Sr^{90} in the soil did not increase during 1960. The migration of Sr^{90} in soil layer depends mainly on the terrain and geochemical conditions. Orig. art. has 2 figures and 5 tables.

ASSOCIATION: none

SUBMITTED: 06Feb64 ENCL: 00 SUB CODE: NP, ES

NO REF SOV: 006 OTHER: 014 NA

Card 1/2

TYURYUKANOVA, E.B.

Swamp soils of the Meshchera Lowland. Vest. Mosk. un. Ser. biol., pochv., geol., geog. 12 no.4:115-123 '57. (MIRA 11:5)

1. Kafedra geografii pochv Moskovskogo gosudarstvennogo universiteta.
(Meshchera--Soils) (Swamps)

TYURYUKANOVA, E.B.

Dividing the Meshchera Lowland swamp soils (within Ryazan Province) into regions based on their natural conditions. Nauch.dokl.vys. shkoly; biol. nauki no.1:186-189 '58 (MIRA 11:8)

1. Predstavlena kafedroy geografii pochv Moskovskogo gosudarstvennogo universiteta im. M.V. Lomonosova.
(MESHCHERA--SOILS)

TYURYUKANOVA, E. B. Cand Biol Sci -- (diss) "[redacted] Swampy soils of the Meshcherskaya lowland within the boundaries of Ryazanskaya Oblast." Mos, 1958. 14 pp [redacted] (Mos State Order of Lenin and Order of Labor Red Banner Univ im Lomonosov. Biol Soil Faculty. Chair of Geography of Soils), 110 copies (KL, 13-58, 95)

BARANOV, V. I.; PAVLOTSKAYA, F. I.; TYURYUKANOVA, E. B.; et al

"Some Regularities of the Distribution and Migration of Radioactive Elements in the Soil Stratum."

report submitted for 2nd Intl Conf, Peaceful Uses of Atomic Energy, Geneva, 31 Aug-9 Sep 64.

BARANOV, V.I.; PAVLOTSKAYA, F.I.; FEDOSEYEV, G.A.; TYURYUKANOVA, E.B.; RODIONOVA, L.M.; BABICHEVA, Ye.V.; ZATSEPINA, L.N.; VOSTOKOVA, T.A.; Prinimali uchastiye: YEMEL'YANOV, V.V.; BELYAYEVA, L.I.; LEVKINA, N.I.; MOLCHANOVA, I.V.

Distribution of Sr^{90} on the surface horizon of soils of the Soviet Union during 1959-1960. Atom. energ. 18 no.3:246-250 Mr '65. (MIRA 18:3)

TYURYUTIKOV, V.

From Kounradskiy's past and present. Biul. TSIIN tsvet. met. no.19/20:29-30 '57. (MIRA 11:5)
(Kounradskiy--Copper mines and mining)

TARZIMANOV, G.A. Prinimali uchastiye: KUNT, A.M., inzh., PAKHOMOV, V.V., inzh., TYUCHEV, A.N., kand. tekhn. nauk, dots., ZHUKOV, Ye.M., inzh., retsenzent, LISITSKIY, I.M., kand. tekhn. nauk, red.

[Design of machine tools; handbook for technical designers] Proektirovanie metallorezhushchikh stankov; v pomoshch' tekhniku-konstruktoru. Moskva, Mashinostroenie, 1966. 235 p. (MIRA 18:12)

TYUSHEV, V.

"The Soviet national economy in 1921-1925." Reviewed by V. Tiushev. Vop. ekon. no.10:132-136 O '61. (MIRA 14:10)
(Russia--Economic conditions)

BUDNIK, G.I., kand.ekon.nauk; AVDAKOV, Yu.K., dotsent, kand.ekon.nauk; SARYCHEV, V.G., kand.ekon.nauk; PREOBRAZHENSKIY, A.A., kand. istor.nauk; AVDAKOV, Yu.K., dotsent, kand.ekon.nauk; POLYANSKIY, F.Ye., prof., doktor istor.nauk; ZUTIS, Ya.Ya. [Zutis, J.]; GULANYAN, Kh.G., prof., doktor ekon.nauk; GULANYAN, Kh.G., prof., doktor ekon.nauk; KONYAYEV, A.I., dotsent, kand.ekon.nauk; KHROMOV, P.A., prof., doktor ekon.nauk; SHALASHILIN, I.Ye., dotsent, kand.ekon.nauk; SHEMYAKIN, I.N., dotsent, kand.ekon.nauk; POGREBINSKIY, A.P., prof., doktor ekon.nauk; ORLOV, B.P., dotsent, kand. ekon.nauk; TYUSHEV, V.A., kand.ekon.nauk; BALASHOVA, A.V., kand. ekon.nauk; MOZHIN, V.P., kand.ekon.nauk; MINDAROV, A.T., dotsent, kand.ekon.nauk; SHIGALIN, G.I., prof., doktor ekon.nauk; GOLUBNICHIY, I.S., prof., doktor ekon.nauk; VOSKRESENSKAYA, T., red.; BAKOVETSKIY, O., mladshiy red.; MOSKVINA, R., tekhn.red.

[History of the national economy of the U.S.S.R.; lecture course] Istoriia narodnogo khoziaistva SSSR; kurs lektsii. Moskva, Izd-vo sotsial'no-ekon.lit-ry, 1960. 662 p. (MIRA 13:5)

1. Deystvitel'nyy chlen AN Latviyskoy SSR (for Zutis).
(Russia--Economic conditions)

POLYANSKIY, F.Ya., prof.; SHEMYAKIN, I.N., prof.; GLUKHAREV, L.I., dots.; ROMANCHENKO, L.N., kand. ekon. nauk; KAYYE, V.A., kand. ekon. nauk; MOTUS, P.P., kand. ekon. nauk; TYUSHEV, V.A., kand. ekon. nauk; ROMANCHENKO, L.N., kand. ekon. nauk; AVDAKOVA, Yu.K., kand. ekon. nauk, dots., red.; SPERANSKAYA, L., red.; VOSKRESENSKAYA, T., red.; NEZNANOV, V., mladshiy red.; NOGINA, N., tekhn. red.

[Economic history of capitalist countries] Ekonomicheskaia istoriia kapitalisticheskikh stran; kurs lektsii. Moskva, Sotsekgiz, 1962. 634 p. (MIRA 16:2)

(Economic history)

TYUSHEV, Vyacheslav Serapionovich; MACHUL'SKIY, P.A., red.; ALEKSANDROV, L.A., red. izd-va; LAVRENOVA, N.B., tekhn. red.

[Packing systems for marine engines operating without lubrication] Uplotnitel'nye ustroistva sudovykh mekhanizmov, rabotaiushchie bez smazki. Moskva, Izd-vo "Morskoi transport," 1962. 51 p. (MIRA 15:7)
(Marine engines) (Packing (Mechanical engineering))

TYUSHEV, V. S., Cand Tech Sci -- (diss) "Study of the MP-20 engine with and without intermediate superheating of steam." Len, 1958. 16 pp (Min of the Maritime Fleet USSR, Len Higher Engineering Naval Academy im Admiral S.O. Makarov), 100 copies (KL, 41-58, 121)

TIUSHIN, Yu., arkhitektor

School in Tallinn. Zhil. stroi. no.2:16a-16c '62.
(MIRA 16:1)

(Tallinn--Schoolhouses)

TYUSHIN, Yu.I., arkhitektor

Optimum consolidation of seven-year schools. Izv. ASiA 4 no.2:45-49 '62. (MIRA 15:9)

(Schoolhouses)

TYUSHIN, Yu.I., arkhitektor

Reorganization of schools built on adjoining lots. Gor. khoz. Mosk. 35 no.2:21-22 F '61. (MIRA 14:2)
(Moscow--Schoolhouses)

VOLOSHIN, I.F., kand. tekhn. nauk; DOROSHEVICH, M.; KARACHENTSEVA, N.; KASPEROVICH, A.A; KUPCHINOV, V.; TYUSHKEVICH, N.; KASPER, M., red.

[Semiconductors and their engineering applications] Poluprovodniki i ikh primenenie v tekhnike. [By] I.F.Voloshin i dr. Minsk, Izd-vo "Belorus'," 1963. 286 p. (MIRA 17:4)

STANISHEVSKIY, V.N., kand.tekhn.nauk; TYUSHKEVICH, N.I., kand.tekhn.nauk

Rectification circuits with current multiplication. Izv.vys.ucheb. zav.; energ. 8 no.4:24 Ap '65. (MIRA 18:4)

1. Belorusskiy tekhnologicheskiy institut imeni S.M.Kirova (for Stanishevskiy). 2. Institut teplo- i massoobmena AN BSSR (for Tyushkevich).

L 15119-65 EWA(h)/EWG(k)/EWT(1) Pu-6/Peb IJP(c) AT

ACCESSION NR: AP4047661 S/0119/64/000/010/0001/0003

AUTHOR: Tyushkevich, N. I. (Candidate of technical sciences)

TITLE: How to allow for the parameter spread of components in designing a photovaristor-type photorelay

SOURCE: Priborostroyeniye, no. 10, 1964, 1-3

TOPIC TAGS: photorelay, photorelay design, photovaristor

ABSTRACT: For designing a photorelay circuit, this formula is recommended: $R_E = AU_E^{\gamma-1}E^{-\alpha}$, where R_E is the photovaristor resistance, A is a constant, U_E is the photovaristor voltage, γ is the nonlinearity factor of the current-voltage characteristic, E is the photovaristor illumination, α is the nonlinearity factor of the current-illumination characteristic. From the above, the relay current and turn-on and turn-off illuminations are calculated. Analytical and experimental approaches to the problem of the spread of parameters [illegible]

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components are indicated; both approaches have been tried in designing the FR-1 photorelay; some results are reported. Orig. art. has: 3 figures, 14 formulas, and 2 tables.

ASSOCIATION: Minskiy elektrotekhnicheskiy zavod (Minsk Electrotechnical Manufacturing Plant)

SUBMITTED: 00 ENCL: 00

SUB CODE: EC NO REF SOV: 003 OTHER: 001

APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001857810002-9"

TYUSHKEVICH, N.I., inzh.

Sensitive automatic control elements having transistorized modulating transducers with limited power dissipation. Izv. vys. ucheb. zav.; energ. 4 no.1:47-53 Ja '61. (MIRA 14:2)

1. Institut energetiki AN BSSR. Predstavlena nauchnym seminarom laboratorii elektrotekhniki.
(Automatic control) (Transducers)

L 12262-63 BDS

S/271/63/000/004/007/045

AUTHOR: Tyushkevich, N. I.

46

TITLE: The adaptation of the lost-motion method and the short-circuit method to computing the sensitive organs of automations

PERIODICAL: Referativnyy zhurnal, Avtomatika, telemekhanika i vychislitel'naya tekhnika, no. 4, 1963, 12, abstract 4A73 (Materialy Konferentsii molodykh uchenyich AN BSSR, Minsk, AN BSSR, 1962, 86-92).

TEXT: The author describes a method for computing the static operation of the sensitive organs of an automation with ohmic semiconductor pickups (P). The method enables one to obtain the maximum sensitivity of the organ under the condition where the dissipated power in the P does not exceed the permissible magnitude for a given value of the controlled parameter (temperature, luminous flux, radioactive flux, etc.). There is a diagram for the operation of a P (static and dynamic characteristics of the P, and a curve for nominal dispersed power of the P). The author describes a bridge circuit (BC) of a sensitive element with the P on one bridge arm. His conclusions include the following: 1. to increase the sensitivity of circuits, it is advisable to use a P with a high degree of inductive resistance (R_x); 2. the greatest sensitivity, as regards current, is possessed by a differential

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The adaptation of .....

bridge circuit with feed from a gram-roentgen of current; and as regards voltage, by a differential bridge circuit with feed from a gram-roentgen of voltage; and as regards power, by a serices circuit with shunt and with feed from a gram-roentgen of voltage; and 3. the use of the described method enables one to obtain the simplest relationships. The proposed method of computation may be utilized both in the planning of sensitive elements of an automation with serial production of pickups, and in the preparation of pickups for previously determined loads and for the circuits of the sensitive elements. There are three illustrations and a bibliography of 5 items. P. M.

[Abstracter's note: Complete translation]

Card 2/2

TYUSHKEVICH, N.I., inzh.

Semigraphical method for determining the sensitivity of networks with nonlinear modulating transducers. Izv. vys. ucheb. zav.; energ. 5 no.10:41-45 O '62. (MIRA 15:11)

1. Energeticheskiy institut AN BSSR.
(Electric networks)
(Transducers)

MANGUTOV, Nikolay Romanovich; TYUSHEV, V.P., spets. red.; SUMKIN, A.N., red. izd-va; ASTAKHOV, I.A., tekhn. red.

[Land reform in Soviet Buryat-Mongolia, 1917-1933] Agrarnye preobrazovaniia v Sovetskoi Buriatii; 1917-1933 gg. Ulan-Ude, Buriatskii kompleksnyi nauchno-issl. in-t, 1960. 213 p. (MIRA 14:11)
(Buryat-Mongolia--Land tenure)